



(10) **Patent No.:** US 9,920,711 B2  
(45) **Date of Patent:** Mar. 20, 2018

- (52) U.S. Cl.  
CPC ..... *F02M 21/0227* (2013.01); *B01D 53/225*  
(2013.01); *B01D 53/94* (2013.01);  
(Continued)

- (58) **Field of Classification Search**  
CPC ..... F02M 21/0227; F02M 21/0239; F02M  
21/0209; B01D 53/94; B01D 53/225;  
(Continued)

- (56)
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- (57) **ABSTRACT**

- A natural gas fueling system supplies methane gas to an engine and includes a filter assembly. The filter assembly includes a gas inlet configured to receive inlet gas and a methane permeable filter configured to separate methane gas and first contaminant gases from the inlet gas. The natural gas fueling system also includes a reformer apparatus configured to convert the first contaminant gases into a reformed gas stream including methane gas. The reformed gas is supplied to the gas inlet and is recirculated through the filter assembly to extract the methane gas from the reformed gas stream.

- 19 Claims, 8 Drawing Sheets**

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